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Editorial

Dear Sirs and Madams,

Radioisotope studies in cardiology have been a standard for myocardial perfusion and function assessment since the late seventies. The rapid development of echocardiography, computed tomography and cardiovascular magnetic resonance provided new insight into the diagnostic role of nuclear cardiology. However the strengths of cardiac nuclear medicine include: reliance on physiology rather than anatomic definition (can be combined with anatomical images); standardized and efficient techniques that can be performed in academic centers and in small hospitals; a large body of evidence-based supporting clinical data.

The current issue of Nuclear Medicine Review is almost entirely on the nuclear methods of cardiac imaging in various clinical settings. The majority of papers are on the perfusion imaging. The authors from Szczecin confirmed the strong prognostic value of SPECT in their unselected population. That is also true for patients with stenosed coronary arteries. Normal SPECT scan has an excellent prognosis as it was proven by researchers from Cracow. Moreover myocardial perfusion SPECT study serving as the prognostic tool may be even superior to coronary angiography in women as it was concluded in the paper from Warsaw.

Heart failure and associated arrhythmias are major clinical problems and MIBG imaging provides important prognostic information as well as the myocardial perfusion imaging. In the interesting paper from Lublin the cardiac sympathetic dysfunction was assessed in hemodialysed patients. A broader view was presented in the review article from Institute of Cardialogy, Warsaw.

Highly accurate and repetitive nuclear cardiology techniques have always been used for the serial assessment of patients. Detrimental effects of the chemotherapy on human heart assessed by the gated equilibrium ventriculography is discussed in the original paper from the Centre of Oncology, Warsaw.

This issue of the journal contains an interesting paper from Warsaw University Hospital about the myocardial viability assessed with PET-CT coupled with the very informative cases. More general review paper by Misko describes the role of myocardial perfusion imaging and viability in relation to the current revascularization guidelines.

There are interesting case reports. The authors from Warsaw describe the course of the coronary artery disease in a patient with the ST elevation during the radioisotope stress test. The cardiac patients are often unpredictable. The uncommon vascular anomaly diagnosed with multi modal cardiac examinations is presented by the colleagues from Cracow. Another case shows great efficacy of the PET-CT imaging in myocardial sarcoma patient.

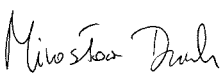
In order to show to the cardiac community other strengths of nuclear medicine there is a paper from Bialystok on the radioiodine treatment of the toxic nodular goitre. The nuclear medicine methods are safe and the patients should not be afraid of radiation. This topic has been thoroughly discussed in the review paper from Lodz.

It is time to accept that myocardial perfusion SPECT and PET in cardiology have to compete with other modalities. Despite the fact that nuclear cardiology measures perfusion better than all other tomographic methods — they image much more of the heart and great vessels. However there is a hope in further technological improvement such as the new gamma cameras based on the CZT semiconductor detectors which is already available in Warsaw. More expectations are associated with the new PET tracers for myocardial perfusion, innervation and metabolism imaging. The newly opened cyclotron centres in Cracow and Kielce show promise for the future development of the nuclear medicine techniques.

With this edition of Nuclear Medicine Review we confirm that nuclear cardiology is and will continue to be an integral part of the diagnosis and management of coronary artery disease. The creativity and pragmatism of nuclear medicine community will result in the development of new agents and nuclear techniques. This will help the nuclear cardiology to remain vital diagnostic tool within the expanding field of cardiovascular imaging.

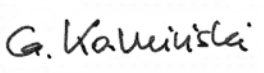
Yours

Mirosław Dziuk



Head of the Nuclear
Cardiology Section
of the Polish Cardiac Society

Grzegorz Kamiński



Editor-in-Chief
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